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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,910	11/28/2001	Bernd Hupfeld	R.36045	5305

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EXAMINER

MCHENRY, KEVIN L

ART UNIT PAPER NUMBER

1725

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/856,910

Applicant(s)

HUPFELD, BERND

Examiner

Kevin L. McHenry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 5-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 886 043 in view of Vidusek (U.S.P. 5,176,325) or Weaver et al. (U.S.P. 5,603,453).

EP 0 886 043 teaches a device for acting on exhaust gases of an internal combustion engine flowing in an exhaust pipe with a reducing agent that includes a supply tube with openings in its wall for introduced the reducing agent from the tube to the exhaust gas. The supply tube is connected to a mixture metering valve that is supplied by a reducing agent source and a compressed air source so that the reducing agent is subjected to compressed air outside of the exhaust pipe. The tube has a first region that extends perpendicular to the flow direction of gas and a second region that extends parallel to the flow direction of gas. The openings are in the second region of the tube and they may be uniformly distributed around the tube circumference. (See EP 0 886 043; abstract and Figures; note that U.S.P. 6,041,594 is an equivalent; see column 1, lines 5-18; column 2, lines 18-67; column 3, lines 1-50).

EP 0 886 043 does not teach the use of a throttle upstream of openings in the supply tube.

Vidusek teaches a device for acting on a flowing gas with a reactant in which a liquid is atomized in a gas stream within a supply tube. Vidusek teach that a throttle

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with a hole in its center is used upstream of exit holes to cause further atomization with reduced air flow requirements. (See U.S.P. 5,176,325; column 1, lines 5-8; column 2, lines 10-20; column 3, lines 7-17, 41-55).

Weaver et al. teach a device for acting on a flowing gas with a reactant in which a liquid is atomized in a gas stream within a supply tube. Weaver et al. teach that a throttle with a hole in its center is used upstream of outlet holes in the tube to produce a finely atomized spray at a reduced energy demand. (See U.S.P. 5,603,453; column 1, lines 11-18; column 2, lines 15-19; column 3, lines 22-37, 56-63; column 4, lines 21-34, 50-57; column 5, lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the device of EP 0 886 043 by the teachings of Vidusek or Weaver et al. One would have been motivated to do so in order to cause further atomization with reduced air flow requirements, as taught by Vidusek, or to produce a finely atomized spray at a reduced energy demand, as taught by Weaver et al.

### ***Response to Amendment***

3. Upon carefully reviewing applicant's amendment filed 20 August 2004, the examiner acknowledges the amendments to the specification, and the amendments to claim 5. The former drawing objection and 112 rejections are withdrawn in view of applicant's amendments.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 5-12 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L. McHenry whose telephone number is (571) 272-1181. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin McHenry



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